

Notice of Allowability

Application No.

10/700,593

Examiner

Anatoly Vortman

Applicant(s)

CHIANG ET AL.

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed on 11/05/2003.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ The drawings filed on 15 March 2005 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to Applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended to correct minor informalities and to clarify the language, as follows:

In the specification:

p.1, line 11, [on] has been replaced with --with--;

p. 2 line 4, [arrange] has been replaced with --arranging--, and, line 19, [for] has been replaced with --to-- before "form";

p.5, lines 10 and 11, [fin] has been replaced with --fins-- before "3", and, line 21, [horizontally] has been replaced with --vertically--;

p.6, line 5, [are] has been replaced with --is--, line 12, [42] has been replaced with --41--, line 19, [fit] has been replaced with --fitting--;

p.7, line 1, [42] has been replaced with --41--, line 2, [delivered] has been replaced with --deliver it--, line 3, [41] has been replaced with --42--;

lines 6-10, in line 6, following "According to the above," [the present invention uses the concept of driven array antenna to generate half-wave antenna members spaced from each other by slots to increase bandwidth of frequency domain. The simple structure successfully establishes an omni-directional radiation field with improved bandwidth. This] has been deleted

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as irrelevant to the present invention, and --this-- has been inserted before “disclosure” in line 10;
and,

in lines 10 and 12, [embodiments] have been replaced with --embodiment--.

In the claims:

Claim 1, line 1 of the claim, [a] has been deleted before “curved fins”;

Claims 2 and 12, lines 2 of the claims, [form] has been replaced with --forming--; and,

Claim 4, line 2 of the claim, [vertically] has been replaced with --horizontally-- in order
to provide proper antecedent basis for “fins”.

2. The following is an examiner’s statement of reasons for allowance:

The allowability resides in the overall structure of the device as recited in independent claims 1 and 10, and at least in part, because each of the claims 1 and 10 recites: “a heat sink, having a thermal conductive block embedded therein...a through hole exposing the thermal conductive block from a top surface of the heat sink...at least one heat pipe comprising...a horizontal extension...being inserted into the though hole in contact with the thermal conductive block”. The aforementioned limitations in combination with all remaining limitations of claims 1 and 10, are believed to render said claims 1 and 10 and all claims dependent therefrom patentable over the art of record.

The closest reference to the present invention is believed to be the US/2005/0073811 to Wang et al., (Wang).

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Wang disclosed (Fig. 1 and 2): an integrated heat dissipating device having curved fins, comprising: a heat sink (30); a first set of fins (60) including a plurality of vertically extending fins stacked with each other along a horizontal direction; a second set of fins (50) integrated by a plurality of vertically extending fins arranged in a curved shape beneath the first set of fins (60); and at least one heat pipe (80) comprising the extensions across the first set of fins (60) and the second set of fins (50), but did not disclose that the heat sink has a thermal conductive block imbedded therein, a through hole exposing the thermal conductive block from a top surface of the heat sink, at least one heat pipe comprising a horizontal extension being inserted into the through hole in contact with the thermal conductive block, as required by independent claims 1 and 10 of the instant application.

The Examiner has cited the following pertinent to the present invention references:

US/6680015 and 6758263 disclosed heat sinks having thermally conductive blocks embedded therein;

US/6827136, 6842342, 6189601, 6352104, 6625021, 6651734, 5699853, 5912802, 5959837, 6880346, and 2005/0092465 disclosed heat sinks comprising heat pipes embedded therein.

US/2005/0061480, 6883592, 5946190, 5020586, 4291754, 6404632, 6289975, 6076594, 6062301, 6782941, and EP/1045303 disclosed various heat sinks for cooling electronic devices.

None of the cited references either taken alone or in combination is believed to render the present invention unpatentable as claimed.

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3. Any comments considered necessary by Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 571-272-2047. The examiner can normally be reached on Monday-Friday, between 10:00 am and 6:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Lynn Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AV

A handwritten signature in black ink, appearing to read 'A. Vortman', with a long horizontal flourish extending to the right.

Anatoly Vortman
Primary Examiner
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